WHAT IS CLAIMED IS:

1. A method for detecting malignant hyperplasia in a biological sample, comprising the steps of:

(a) isolating mRNA from said sample; and

(b) detecting hepsin mRNA in said sample, wherein the presence of said hepsin mRNA in said sample is indicative of the presence of malignant hyperplasia, wherein the absense of said hepsin mRNA in said sample is indicative of the absence of malignant hyperplasia.

2. The method of claim 1, further comprising the step of:

comparing said hepsin mRNA to reference information, wherein said comparison provides a diagnosis of said malignant hyperplasia.

3. The method of claim 1, further comprising the step

of:

comparing said hepsin mRNA to reference information, wherein said comparison determines a treatment of said malignant hyperplasia.

4. The method of claim 1, wherein said detection of said hepsin mRNA is by PCR amplification.

5. The method of claim 4, wherein said PCR amplification uses primers selected from the group consisting of SEQ ID No. 8 and SEQ ID No. 9.

6. The method of claim 1, wherein said biological sample is selected from the group consisting of blood, urine, saliva, tears, interstitial fluid, ascites fluid, tumor tissue biopsy and circulating tumor cells.

7. A method of inhibiting expression of endogenous hepsin in a cell, comprising the step of:

introducing into said cell a vector comprising a hepsin gene operably linked in opposite orientation to elements necessary for expression, wherein expression of said vector in said cell produces hepsin antisense mRNA that hybridizes to endogenous hepsin mRNA, thereby inhibiting expression of endogenous hepsin in said cell.

8. A method of inhibiting hepsin protein in a cell, comprising the step of:

introducing into said cell an antibody which is specific for a hepsin protein or a fragment thereof, wherein binding of said antibody to said hepsin protein or a fragment thereof inhibits hepsin protein in said cell.

9. The method of claim 8, wherein said hepsin protein fragment is selected from the group consisting of SEQ ID Nos. 28, 29,

30, 31, 88, 89, 108, 109, 128, 129, 148, 149, 150, 151, 152, 153 and 154.

10. A method of targeted therapy to an individual, comprising the step of:

administering a compound to an individual, wherein said compound has a therapeutic moiety and a targeting moiety specific for hepsin.

11. The method of claim 10, wherein said targeting moiety is selected from the group consisting of an antibody specific for hepsin and a ligand or ligand binding domain that binds hepsin.

12. The method of claim 10, wherein said therapeutic moiety is selected from the group consisting of a radioisotope, a toxin, a chemotherapeutic agent, an immune stimulant and a cytotoxic agent.

13. The method of claim 10, wherein said individual suffers from a cancer selected from the group consisting of ovarian cancer, lung cancer, prostate cancer and colon cancer.

14. A method of vaccinating an individual against hepsin, comprising the step of:

inoculating an individual with a hepsin protein or fragment thereof that lacks hepsin protease activity, wherein said inoculation with said hepsin protein or fragment thereof elicits an immune response in said individual, thereby vaccinating said individual against hepsin.

15. The method of claim 14, wherein said individual has cancer, is suspected of having cancer or is at risk of getting cancer.

16. The method of claim 14, wherein the length of said hepsin fragment is from 9-residue long to 20-residue long.

17. The method of claim 16, wherein said 9-residue fragment is selected from the group consisting of SEQ ID Nos. 28, 29, 30, 31, 88, 89, 108, 109, 128, 129, 148, 149, 150, 151, 152, 153 and 154.

18. A method of producing immune-activated cells directed toward hepsin, comprising the steps of:

exposing immune cells to a hepsin protein or fragment thereof that lacks hepsin protease activity, wherein said exposure to said hepsin protein or fragment thereof activates said immune cells, thereby producing immune-activated cells directed toward hepsin.

19. The method of claim 18, wherein said immune cells are selected from the group consisting of B cells, T cells and dendritic cells.

20. The method of claim 18, wherein the length of said hepsin fragment is from 9-residue long to 20-residue long.

21. The method of claim 20, wherein said 9-residue fragment is selected from the group consisting of SEQ ID Nos. 28, 29, 30, 31, 88, 89, 108, 109, 128, 129, 148, 149, 150, 151, 152, 153 and 154.

22. The method of claim 19, wherein said dendritic cells are isolated from an individual prior to said exposure, wherein said activated dendritic cells are reintroduced into said individual subsequent to said exposure.

23. The method of claim 22, wherein said individual has a cancer, is suspected of having a cancer or is at risk of getting a cancer.

24. An immunogenic composition, comprising a fragment of a hepsin protein and an appropriate adjuvant.

25. The immunogenic composition of claim 24, wherein the length of said hepsin fragment is from 9-residue long to 20-residue long.

26. The immunogenic composition of claim 25, wherein said 9-residue fragment is selected from the group consisting of SEQ ID Nos. 28, 29, 30, 31, 88, 89, 108, 109, 128, 129, 148, 149, 150, 151, 152, 153 and 154.

27. An oligonucleotide having a sequence complementary to SEQ ID No.188.

28. A composition comprising the oligonucleotide of claim 27 and a physiologically acceptable carrier.

29. A method of treating a neoplastic state in an individual in need of such treatment, comprising the step of:

administering to said individual an effective dose of the oligonucleotide of claim 27.

30. The method of claim 29, wherein said neoplastic state is selected from the group consisting of ovarian cancer, breast cancer, lung cancer, colon cancer and prostate cancer.

31. A method of screening for compounds that inhibit hepsin activity, comprising the steps of:

(a) contacting a sample comprising hepsin protein with a compound; and

(b) assaying for hepsin protease activity, wherein a decrease in said hepsin protease activity in the presence of said compound relative to hepsin protease activity in the absence of said compound indicates said compound inhibits hepsin activity.